

Personality Disorder in Psychological Injury: A Biopsychosocial and Forensic Perspective

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Abstract The present paper explores personality disorder from a biopsychosocial and developmental perspective, in particular, while considering forensic applications. It reviews criticisms of the current approach to classification, especially about its categorical in nature. Then, the paper focuses on the Five-Factor Model of personality dimensions and the attempts to relate it to understanding and assessing personality disorder (Costa and Widiger 2002). Developmental research is revealing that from early in life, temperament and personality seem to conform to a five-factor structure akin to the Big Five, although there are exceptions. Next, the paper examines the biopsychosocial model of personality and considers how personality disorder in the healthcare context affects treatment, relations with providers, and so on. Lastly, the paper examines Young's (1997) stage model of development in relation to the Big Five and shows how the manner in which it deals with the development of the self may facilitate understanding of personality development and its disturbance. Recommendations and implications are considered.

Keywords Personality disorder · Psychological injury · Biopsychosocial model

Personality involves a dynamic, responsive, and changing integrated biobehavioral and psychosocial entity that develops throughout the life span. This article examines personality disorder in terms of the validity of the DSM

IV's (*Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision*; DSM-IV, 1994; DSM-IV-TR, American Psychiatric Association 2000) approach to its classification. The Five-Factor Model of personality dimensions provides a framework for understanding the relationship between normal personality and personality disorder (Costa and Widiger 2002). The article argues that suggestions to include a dimensional perspective to the classification of personality disorder should be complemented by a developmental perspective. In general, a developmental, biopsychosocial, forensic, and health-informed model of personality is needed in the area of psychological injury and law. This may allow psychologists to better understand individuals being assessed and eventually, this approach may contribute to improvements in assessment instruments. One way of moving the field forward would be to examine the development of personality and its disorders in the context of self development (e.g., Erikson 1963; Loevinger 1993). Moreover, the study of the development of personality, its disturbances, the ego, the self, and so on finds its roots in the earliest phases of psychology, psychiatry, and related disciplines through the work of Freud and other historical figures.

In the area of psychological injury, major confounds derive from cases where personality disorder (PD) is diagnosed or alleged. Given that personality disorder is defined in terms of enduring characteristics in critical components of one's psychology, such as behavior, affect, and thinking, its diagnosis may help explain alteration in psychological presentation after an event at claim. That is, the presence of a personality disorder may be sufficient to explain changes in psychological condition attributed to an event at claim, thereby eliminating the event as a material cause. In contrast, a personality disorder can be inappropriately blamed for psychological injury appearing after an

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event at claim. Worse, the assessor may not have sufficient data to establish the presence of a genuine personality disorder, and nevertheless arrive at a diagnosis of one, using it in the way indicated in the assessment conclusions. The condition of personality disorder is widespread, occurring in 13% percent of the population (Mattia and Zimmerman 2001).

However, in one-time mental health assessments, it is difficult to ascertain a life-long pattern of any sort based on the relatively short time available to the assessor. The typical assessor in the area of psychological injury has little time to develop a detailed understanding of the life history in an individual's psychology that may have predisposed him or her to the development of a personality disorder; therefore, the assessor relies on snapshot estimates of preexisting psychological vulnerabilities and pathologies. Some relevant history is taken, and personality inventories are administered, perhaps with part of the focus on determining reporting biases and threats to accuracy in symptom presentation. Generally, some relevant data are gathered, but often, they are not sufficient to provide careful reasoning about the presence of personality disorder in the individual. Moreover, the scientific information available to assessors is informed by current conceptualizations, as found in the most widely used diagnostic manual, the DSM-IV, and it has limitations, as discussed below.

Therefore, in individual assessments, unless there is clear evidence, diagnoses of personality disorder may not be provided. Or, terms such as "rule out" may be used in order to indicate the possible presence of a personality disorder, but the conclusion is offered without any degree of certainty. Perhaps the assessor may decide to diagnose the clear presence of a personality disorder, but the ambiguous, catch-all category of personality disorder, not otherwise specified, may be used.

It is important to consider that in general, the area of personality disorder is beset by disagreement and confusion, thereby complicating diagnosis. Under these circumstances, assessors should examine carefully the reliability and validity of any diagnoses of personality disorders. The literature underscores the fact that the area of personality disorder is rife with critique and with uncertainty of what form it will take in the pending revision of the DSM V.

However, should the field develop better conceptualization of personality disorders, increased diagnostic rigor, and more reliable and valid means of assessing personality disorders, psychologists and other mental health assessors would be able to better address personality disorders in the context of their work. In order to contribute to this objective, the article reviews the controversies in the area and examines conceptual underpinnings of personality disorder. It reviews recent formulations to improve comprehension and diagnosis and the ways that personality

disorder may be best measured. The article makes recommendations both at the conceptual and applied levels.

Before delving into the major points of the article, we need to consider what the article does not attempt to accomplish and what the field of psychological injury and law needs in terms of understanding personality disorder and its measurement. On the one hand, a traditional approach to the question of personality disorder in relationship to law would investigate their importance in this type of litigation and the value of carefully assessing them using traditional typologies and measures. It would query how a better understanding of personality disorders could help assessors broach legally relevant questions pertaining to causality and its complications, treatment and its barriers, and functionality and outcome. It would provide a literature review of the difficulties presented by clients with comorbid clinical and personality disorders, such as chronic pain disorder with narcissistic personality disorder, posttraumatic stress disorder with borderline personality disorder, and traumatic brain injury with substance abuse.

An article adopting a standard approach to personality disorder and psychological injury is needed in the field. However, the present special issue is comprised of articles that skirt standard issues, opening new areas of inquiry for the journal. Therefore, rather than examining in depth the relationship of standard approaches and measures, such as the MMPI-2, it examines the relevance of other approaches, such as the Five-Factor Model, models of self development, and instruments related to them. This is not meant to deny the value of the traditional approaches and instruments, and they are examined in the article. Nor does the article seek to inappropriately advocate for alternative approaches; for example, the limits in the applicability of the Five-Factor Model to the forensic context is underscored at various junctures. Finally, it is anticipated that future articles in the journal will explore further more standard approaches and instruments applicable to personality disorder in relation to psychological injury and law.

Criticisms of the DSM-IV Approach to Personality Disorder

Problems

Fowler et al. (2007) enumerated the complexities and controversies in the DSM-IV's approach to personality disorders. The DSM provides a broad definition that a personality disorder is an enduring pattern in inner experience and in behavior manifested as early as adolescence. The enduring pattern exhibits marked deviation from cultural expectations relevant for the individual. Moreover,

it is considered pervasive, inflexible, and stable, and leads to distress or impairment in the individual.

Fowler et al. indicated that there are at least nine components of the definition that need careful semantic clarification. For example, how long do features of a particular personality disorder need to be part of an individual's personality structure before it can be considered enduring? How can we define "marked" deviation, especially in comparison to cultural norms? Inner experience covers a broad range of processes that may be hard to define, and impairment requires careful evaluation of the person in context, which is often hard to accomplish.

The DSM clusters its ten personality disorders into three clusters: Odd–Eccentric (paranoid, schizoid, schizotypal); Dramatic–Emotional–Erratic (antisocial, borderline, histrionic, narcissistic); and Anxious–Fearful (avoidant, dependent, obsessive-compulsive). However, the category most commonly diagnosed is that of personality disorder not otherwise specified, which in itself suggests difficulty in diagnosing the DSM-IV's specific personality disorder categories.

Fowler et al. (2007) discussed 13 difficulties with the DSM-IV's approach to personality disorders:

1. Some personality disorders are considered little more than summary labels of a collection of behaviors. Moreover, personality disorders have limited explanatory power and limited predictive utility. Some research has shown a lack of cross-situational consistency, calling into question the concept of personality as pervasive behavioral dispositions.
2. The DSM adopts a categorical approach to classifying personality disorders. As with physical health problems, and consistent with the biomedical model and the general approach of the DSM to nosology, personality disorders are considered to reflect a collection of natural discontinuities or specific entities that are distinct from each other. In contrast, a dimensional approach considers phenomena as varying along natural continua, with their poles having quite different quantifications (e.g., higher, lower). Psychologists argue that dimensional approaches allow more precision; for example, the degree of presence of a trait could be specified with a percentage. However, there is no agreement about which dimensions should be used in any system devised to replace the categorical approach to personality disorder. Nor is there consensus about what should be the cut-offs that indicate the presence of personality disorder on psychological instruments measuring them. Ultimately, researchers need to develop measurements of dimensional attributes concerning personality disorder that possess adequate

psychometric reliability and validity. Until this happens, it will be difficult to determine whether personality disorders are underpinned more clearly by the categorical or dimensional approach.

3. There are several different models of dimensions of normal personality, such as the Five-Factor Model. Another model, the prototype model, is not too different from the DSM's categorical approach and, therefore, is limited in its validity. The Five-Factor Model is not the only one with dimensions on which variations in behavioral normality and abnormality are noted. However, the Five-Factor Model has received the most research attention. It may provide "an overarching and parsimonious" approach accommodating all of the DSM's specific personality disorders (p. 8), as demonstrated by investigations by Bagby and colleagues (Bagby et al. 2005; Miller et al. 2005).
4. That the DSM approach to personality disorders is flawed is attested to by the "rampant" comorbidity that derived from its use. Frequently, individuals are diagnosed with at least two personality disorders or one personality disorder and a clinical disorder.
5. Empirical research has established that the DSM personality disorders do not meet adequate empirical standards for internal consistency, test–retest reliability, and inter-rater reliability.
6. About particular components of validity, such as construct and predictive validity, it is essential to demonstrate adequate validity.
7. The extant instruments used to assess personality disorders are lacking in reliability and validity.
8. The conceptual distinction between personality disorders and clinical disorders is "frequently unclear" and seems arbitrary.
9. The DSM acknowledges that certain personality disorders should be diagnosed more frequently in men and others more frequently in women. However, it is unclear whether the different frequencies in diagnosis across gender reflect biases or a natural state of affairs.
10. Clinical categories are used to help assessors and therapists understand symptoms, course, etiology, and treatment. However, the notion that personality disorders are difficult to treat persists. Generally, there is a "marked paucity" of well conducted empirical investigation of treatment effectiveness with personality disorders.
11. In the DSM, disorders are structured by a polythetic format where, generally, individuals need to express symptoms in several categories. Moreover, within each category there are lists of symptoms where one or more need(s) to be present. For the personality disorders, there is disagreement regarding the specific criteria needed to arrive at diagnosis.

12. Moreover, through a polythetic approach to diagnosis, individuals may be diagnosed with the same disorder but display very different symptom sets. Therefore, one finds “marked” heterogeneity of symptoms possible within each diagnostic category of personality disorder.
13. Particular personality syndromes, such as borderline personality disorder, appear to be comprised of several distinct types. They vary in etiology, course, and response to treatment but are lumped nevertheless, compromising the categories’ construct validity.

Widiger (2007) repeated some of these criticisms of the DSM approach to personality disorders and offered several more before arriving at recommendations. The criticisms are as follows. (a) A diagnosis of personality disorder can have a pejorative connotation. (b) Next, the boundary between normal personality and personality disorder is not made clear in most cases. In the DSM, the boundary is inconsistent, arbitrary, and changing over editions. (c) The most frequently used diagnosis is of personality disorder not otherwise specified because of the diagnostic imprecision in the ten major categories. Moreover, the latter do not include certain relevant personality difficulties, such as shyness and perfectionism. (d) Some disorders among the ten major ones have elicited little empirical investigation and clinical interest.

Possible Solutions

Widiger (2007) noted that some workers have proposed that personality disorders should be abandoned in the DSM, but he argued that this would create more problems than it solves. There have been 18 different proposals for a dimensional model of personality disorders, so that arriving at a consensus on which is best appears improbable. Widiger refers to his hierarchical model of dimensionality that attempts to integrate some of these varying approaches (Widiger and Simonsen 2005). In the first, superordinate level personality is seen to vary in terms of introversion or extraversion. In the second level, there are up to five broad domains of general or normal personality functioning (emotional instability–stability, antagonism–compliance, extraversion–introversion, constraint–impulsivity, and unconventionality–closed to experience; consistent with the Five-Factor Model, as described in the next paragraph). The next level in Widiger’s hierarchical model of personality disorder is comprised by maladaptive variants, consisting of two to four or five disorders per category. Widiger acknowledged that in his system, the problem of determining the correct cutoff points between normal and maladaptive traits would remain, although the Global Assessment of Functioning Scale on Axis V of the DSM could be used for this purpose.

The Five-Factor Model is the predominant one in the dimensional approach to the study of normal personality (John and Srivastava 1999). Initially, the five factors were derived from studies of natural language terms. The factors derived in the research were labeled the Big Five because of the broad range covered by each of the factors. Costa and McCrae (1992) published a widely used self-report personality instrument [the Revised NEO Personality Inventory (NEO PI-R), with 240 items] that permits a differentiated measurement of each of the five domains in terms of six facets each (facets can be considered subdimensions or traits in a hierarchical model). The particular polar opposites involved in the five dimensions and some of the facets that have been postulated for them follow: Extraversion–Introversion—gregariousness, assertiveness; Agreeableness–Antagonism—trust, straightforwardness; Conscientiousness–Lack of direction—competence, order; Neuroticism–Emotional stability—anxiety, angry hostility; Openness to experience–Closedness—ideas, fantasy.

Widiger et al. (2002) have specified how the Five-Factor Model can guide personality disorder assessment and diagnosis. Widiger et al. listed common impairments that may correspond to the facets or subdomains of the five factors. There are 30 such facets, with two poles each. The common impairments included DSM-IV personality disorder symptoms.

Anastasi and Urbina (1997) pointed out that the NEO PI-R inventory does not contain validity scales to check the degree of honesty of respondents. Therefore, the test has no way of contributing data to determine whether respondents had been honest and cooperative. This limits the test’s utility in the forensic forum. Consequently, the article examines another measure that provides information relevant to the Five-Factor Model and that has built-in client validity checks through a variety of scales.

The Minnesota Multiphasic Personality Inventory, second edition (MMPI-2; Butcher et al. 1989, 2001) is the most widely used personality inventory, with the most research undertaken on its structure, properties, reliability, and validity (Ben-Porath 2006; Butcher 1999). It is used to assess normal and pathological personality and has scales that are applicable to the forensic context. It was renormed in 1989, and the text was revised in 2001, with new scales added to scoring procedures. There are four types of scales in the MMPI-2: (a) respondent validity scales, (b) standard clinical scales, (c) more specific content scales, and (d) more specialized scales. The major validity scales, L, K, and F, concern, respectively, faking good, or presenting with exaggerated virtues, defensiveness, and faking bad, or presenting with exaggerated symptoms. The latter may be interpreted as malingering, a cry for help, or, in other ways, depending on the full set of information gathered in assessment. Other validity scales have been added, such

as those concerning consistency in response. The Fp scale (Arbisi and Ben-Porath 1995) has been added to help detect a pattern of infrequency of response not necessarily deriving from psychopathology but attributable to response biases such as malingering (Graham 2006).

The ten basic clinical scales of the MMPI-2 derive their labels from the original version; therefore, some are outdated so that often, instead of their labels being provided in assessments, their number equivalents or abbreviations are used. In terms of the order of the numbers assigned to them, the scales concern hypochondriasis, depression, hysteria, psychopathic deviate, masculinity–femininity, paranoia, psychasthenia (akin to anxiety), schizophrenia, mania, and social introversion–extraversion. More specific scales break down and help analyze the major scales and are called content scales. Also, specialized scales have been added over time, such as for posttraumatic stress disorder. The major scales have been subject to much empirical research; in particular, recently, they have been restructured by Tellegen et al. (2003; MMPI-2 Restructured Clinical scales). In particular, the authors removed item overlap and removed items that reflect demoralization, which were used to create a new clinical scale because of the common presence of demoralization in the other scales. Through their procedures, they state they have improved discriminability and convergent validity of the eight scales involved in the restructuring (two scales that are less related to psychopathology were not restructured).

The forensic utility of the MMPI-2 is generally underscored, although its more recent developments need further empirical testing. It is widely used in forensic contexts. It is standardized, with adequate reliability (consistency) and validity (soundness), as well as known error rate (positive and negative predictive power) in relevant contexts, which constitute crucial psychometric properties. It provides a series of respondent validity scales that check for symptom minimization, exaggeration, malingering, and so on. Because of its extended item pool, 567, in its clinical scales, it covers a good range of symptoms applicable to forensic contexts. It has been deemed admissible to court on multiple occasions because it meets legal standards of good science (especially as described in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* 113 S. Ct. 2786 (1993)).

Current innovations of the MMPI-2 include creation of the Personality Psychopathology Five (PSY-5) scales. Their conceptualization approaches that of the Five-Factor Model. Harkness and McNulty (1994) proposed the personality model on which the scales were developed, and it spanned normal functioning and clinical difficulties originating from personality disorders (Graham 2006). Harkness et al. (1995) constructed the scales to assess relevant personality constructs; their items are clinically salient, and they have demonstrated empirical correlates (Ben-Porath 2006). In terms of the particular PSY-5 scales, Aggressiveness

focuses on offensive and instrumental aggression designed to achieve a desired goal; Psychoticism concerns disconnection from reality, for example, in unshared beliefs and unusual sensory or perceptual experiences; Disconstraint involves risk-taking or impulsivity or absence of moral restraint; Negative Emotionality or Neuroticism concerns predispositions toward negative emotions, problems, worry, self-criticism, guilt or catastrophizing; and Introversion or Low Positive Emotionality involves limited joy, positive engagement, social extraversion (Ben-Porath 2006; Graham 2006).

In a construct validity study, Bagby et al. (2005) reported results supportive of the factor structure of the PSY-5 items in both college students and psychiatric patients. In addition, they extended validation research by using a set of items designed specifically to assess personality pathology in terms of the DSM-IV, the Personality Disorder scales (PD scales; Somwaru and Ben-Porath 1995). In both samples, they found patterns of correlations between the PSY-5 and PD scales that provided “reasonable” support for convergent and discriminant validity.

The PSY-5 scales have been correlated with scores on measures of the Five-Factor Model. For example, Sharpe and Desai (2001) and Trull et al. (1995) compared the PSY-5 and Five-Factor Model inventories in their relative predictive capacities, aside from establishing the relations between them. On the one hand, they found “substantial” overlap between the instruments, but on the other hand, each provided “incrementally valid information in predicting extra-test criteria” (Ben-Porath 2006, p. 361). Arnau et al. (2005) developed lower-level facet subscales of the PSY-5. More research is needed to test their utility, for example, because the internal consistency of some facets is unacceptably low (Graham 2006). In this regard, Quilty and Bagby (2007) found that the reliability and discriminability of the subscales were mostly inadequate. In terms of forensic application, Ben-Porath (2006) described his research showing relevant empirical correlates of the PSY-5 scales in a pretrial forensic assessment sample (Petroskey et al. 2003). The authors concluded that the results resembled those in other settings, providing further support for using the PSY-5 in forensic evaluations. This conclusion seems to be one that assessors in the field of psychological injury and law should consider.

Bagby et al. (2005) investigated whether measures congruent with the Five-Factor Model of personality can help capture personality psychopathology. They administered to a sample of psychiatric patients several assessment procedures and instruments related to the Big Five, including the Structured Interview for the Five-Factor Model (Trull and Widiger 1997) and the NEO PI-R. Bagby and colleagues (1999) had already shown that, using the NEO PI-R in a diagnostically heterogeneous psychiatric

sample, the five factors in the Five-Factor Model could be extracted. In their 2005 study, Bagby et al. (2005) found that in hierarchical regressions, both domain and facet scores related to the Five-Factor Model predicted personality disorder symptom counts, especially for paranoid, schizoid, schizotypal, borderline, narcissistic, dependent, and avoidant personality disorder.

Saulsman and Page (2004) conducted a meta-analysis, or cross-study statistical analysis, on studies on the topic of the relationship of the Five-Factor Model and personality disorder in adults. In the meta-analysis, the only factor not prominently related to personality disorder variance was openness to experience. The results were obtained across different types of samples and measures. The authors concluded that the Five-Factor Model might have clinical utility, despite not having been constructed with items specifically reflective of that purpose. These data support the conclusion that the Five-Factor Model can lead to measures that have clinical utility in the forensic context.

This being said, Lenzenweger and Clarkin (2005) pointed out the empirical and theoretical pitfalls in assuming that normal personality and personality disorder can be organized into a coherent framework. For the authors, the relationship between normal personality and personality disorders still requires much research. Most research that has been conducted to date in the area is cross-sectional, which militates against finding the data needed with respect to longitudinal course, continuity, and change.

Lenzenweger and Clarkin (2005) raised other concerns about assuming that the Five-Factor Model can help serve to restructure the area of personality disorder. Although the Five-Factor Model of normal personality has been supported in empirical research, there are other models that have been developed, and moreover, five factors do not consistently emerge in the area of personality disorder. Moreover, as presently conceived, normal personality measures are continuous but personality disorders are considered categorical, complicating an understanding of their relationship. Finally, despite the assumption that personality disorders are enduring, stable conditions that are trait-like, a few longitudinal research studies have been initiated showing that features of personality disorders change “considerably” over time. The authors argued that there needs to be further research of the developmental course of personality pathology over the lifespan. Future research needs to consider the biobehavioral and psychosocial processes and mechanisms explaining the development and etiology of personality pathology.

It is in this guise that, in the next section, I examine the developmental study of personality disorder. There has been a body of research on early temperament, personality, and related factors (temperament variables are considered more fixed and constitutional and earlier-developing than

personality variables). However, in most personality research, developmental factors are not considered, and the same rings true in the area of personality disorder. Therefore, there is still much to learn and new concepts to consider, which the review is aimed at achieving. For example, the work of Loevinger on stages in personality acquisition from an ego or self model is rarely mentioned in the literature on personality disorder and when it is mentioned, it is never in depth.

Developmental Origins of Personality and Its Disorders

Personality concerns the whole person functioning in context. Despite this basic knowledge, there are several disjointed areas in the field that reflect a fragmentation that works against developing a coherent framework. First, generally, the study of normal personality processes and of personality disorders function in isolation from each other. Second, the developmental tradition in the study of personality and related concepts, such as self, identity, and ego, are marginalized in the study of personality disorders. Indeed, in the DSM IV, there is almost no reference to childhood antecedents in describing the ten major personality disorders (Widiger et al. 2006). For the authors, “it will be important in future research to further articulate the transition from the abnormal to the abnormal variants of these personality dimensions through childhood development” (p. 249). The implication is that the field should develop integrated models of normal and psychopathological personality from a developmental perspective. With a model such as this, the field will be in a better position to develop psychological instruments that assess personality and its disorders from a perspective that respects developmental dynamics.

The literature on the development of personality and its relationship to personality disorder has made great theoretical strides in showing how the Five-Factor Model is consistent with developmental conceptualization. There have been two major reviews in the last few years on personality development [(1) Caspi et al. 2005; Caspi and Shiner 2006; (2) Mervielde et al. 2005].

Caspi and Shiner (2006) indicated that traditionally, child psychologists study temperament rather than personality, *per se*, but that there is much correspondence between the trait structures that are found in both. For example, Rothbart and Derryberry (2002) examined the factor structure of responses of caregivers on temperament questionnaires about their infants and toddlers, and they found three factors comparable to those found in older children and adults. Other research may find more factors than are evident in adults, not fewer, such as dependency. Overall, though, support is found for an equivalence

between the factors that emerge in the early years and those found in the adult, revolving around the Five-Factor Model.

According to Caspi and Shiner (2006), childhood personality structure appears to map on to the structure found in adults in terms of several lines of empirical investigation. In research with children from the age of 3 to adolescence, questionnaires, adjective lists, and Q-sorts have been factor analyzed, producing five factors, and these are akin to those in adults. The research has included parental reports, teacher reports, and self reports (e.g., Measelle et al. 2005). The temperament research has yielded a factor structure with up to four factors, and these are comparable to four of the Big Five factors—Surgency (Extraversion), Negative affectivity (Neuroticism), Effortful Control (Conscientiousness), and Affiliativeness (Agreeableness). This research has not found an equivalent factor for Openness to Experience. However, according to Caspi et al. (2005), the research on early temperament reveals six traits, although they are not necessarily equivalent to those on the Big Five. When behavior is analyzed in children, either on tasks or observationally, the standard five-factor structure is found.

When personality in children is studied from the perspective of personality types rather than dimensions, generally, three types are found—Resilients, Overcontrollers, and Undercontrollers. These types cannot be translated into Big Five equivalents. However, researchers are attempting to understand the variations in the Big Five dimensions that contribute to them (Mervielde et al. 2005).

Caspi and Shiner (2006) undertook a detailed literature review to justify their model of which lower-order traits seem to constitute the higher-order ones in the Five-Factor Model. For extraversion, they identified the lower-order traits of sociability and energy or activity level (for neuroticism, they identified fear, anxiety, sadness; for conscientiousness, attention, self-control, achievement motivation, orderliness; for agreeableness, prosocial tendencies, antagonism, willfulness; for openness to experience, intellect, creativity, curiosity). Some other lower-order traits are hypothesized to load on two rather than one of the higher-order ones [social inhibition on extraversion and neuroticism; anger or irritability and alienation or mistrust on neuroticism and agreeableness; responsibility on conscientiousness and agreeableness; note that Caspi et al. (2005) presented a slightly different set of lower-order factors for each higher-order factor considered developmentally in the Five-Factor Model].

Next, Caspi and Shiner (2006) described in depth what the five dimensions of the Five-Factor Model look like developmentally. For extraversion, children are described as varying in the degree to which they are active, surgently engaged, sociable, expressive, high-spirited, lively, socially adept, active, and energetic compared to quiet,

inhibited, and lethargic. The authors related extraversion to biological underpinnings in degree of behavioral approach, activation, and appetitive system implication (the Behavioral Activation System; Gray 1987, 1990). Davidson et al. (2003) had shown that behavioral approach may be mediated by specialized neural substrates in the left anterior cerebral cortex.

For Caspi and Shiner, neuroticism in children refers to variations in negative emotions and general distress (in particular, in anxiety, vulnerability, tension, fright, falling apart, feeling under stress, feeling guilt, moodiness, low frustration tolerance, and insecurity in social relationships). On the positive side of the pole, it refers to stability, adaptability, bouncing back, and being laid back, summarized as regulating negative emotions. Neuroticism is related to individual variation in withdrawal, inhibition, and avoidance (the authors refer to the biologically based Behavior Inhibition System in this regard; Gray 1987, 1990). Davidson et al. (2003) had demonstrated that behavioral withdrawal may be mediated by specialized neural substrates in the right anterior cerebral cortex.

As for conscientiousness in children, Caspi and Shiner described it in terms of self-control, especially in completing tasks and attempting to meet standards. The more children are conscientious, the more they are responsible, attentive, persistent, orderly, planful, possessed of high standards, and prone to thinking before acting. At the other extreme, children may be irresponsible, unreliable, careless, distractible, and give up easily. The self-regulation takes place at both the effortful voluntary and the automatic nonvoluntary levels. Biologically, the neural substrates identified with conscientiousness include frontal regions of the brain, such as the anterior cingulate cortex.

For children, agreeableness refers to characteristics such as being warm, considerate, empathic, generous, gentle, kind, manageable, and protective of others. At the low end, it refers to being aggressive, rude, spiteful, stubborn, bossy, cynical, and manipulative. Biologically, one finds associations with substrates of the affectional system, such as endogenous opioids, oxytocin, and brain areas supporting positive emotions.

In children, openness to experience refers to eagerness to learn, cleverness, knowledge acquisition, perceptivity, imagination, curiosity, and originality. Caspi and Shiner did not describe biological associations for this trait.

Mervielde et al. (2005) proposed a hierarchical model of childhood personality based on the Five-Factor Model. They identified two broad bands, concerning internalizing and externalizing, and the five dimensions of the Big Five. They stated that in general, there is relatively little empirical investigation of childhood precursors to personality disorders in adults. In their review, they identified four basic dimensions found across different models of early temper-

ament. These dimensions are (Negative) Emotionality, Extraversion, Activity, and Persistence.

The Caspi and Shiner (2006) review presented above also identified four early temperament factors, but two of these seem different from those proposed by Mervielde et al., and it appears that further conceptualization is needed. However, the early temperamental factors listed in Caspi and Shiner do correspond to Big Five factors (Surgency (Extraversion), Negative affectivity (Neuroticism), Effortful control (Conscientiousness), and Affiliativeness (Agreeableness)).

Mervielde et al. (2005) reviewed the research that supported the conclusion that five broad-band factors emerge in the developmental personality literature. For example, Mervielde et al. (1995) examined teacher ratings of 4- to 12-year-olds, Mervielde and DeFuyt (2000) examined peer nominations of 9- to 12-year-olds, and Kohnstamm et al. (1998) investigated parental description of child personality. On the Hierarchical Personality Inventory for Children administered to parents of 9,000 Flemish children for description of personality, at each age level (5–7, 8–10, 11–13), the first five principal components reflected the Five-Factor Model.

Mervielde et al. (2005) proceeded to discuss their work on the dimensional assessment of developmental psychopathological or maladaptive traits. They are constructing a Dimensional Personality System inventory (DPSI). Preliminary factor analysis has yielded a four-factor structure. Like Achenbach's Child Behavior Checklist (CBCL; Achenbach et al. 2003), it has found two higher-order factors related to internalizing and externalizing. Neither instrument has emerged with five lower-order factors, as there are eight narrow band factors in the CBCL and four in the DPSI (Emotional Instability, Introversion, Disagreeableness, Compulsivity). The research group has also developed an instrument that examines normal personality structure, giving findings that reveal a five-factor structure (Hierarchical Personality Inventory for Children; Mervielde and DeFuyt 2002). The factors were labeled: Extraversion, Emotional Stability, Benevolence, Conscientiousness, and Imagination. Research is underway to test the validity of the instrument, for example, by ascertaining its relationship to the DPSI and the CBCL.

As for the research by the authors with adolescents, De Clercq and DeFuyt (2003) and De Clercq et al. (2004) investigated two samples of adolescents in self-ratings of Five-Factor Model and personality disorder inventories. The studies used different inventories for the Five-Factor Model, yet both studies emerged with patterns of results "remarkably" comparable to those in the meta-analysis on the adult research by Saulsman and Page (2004). The most elevated personality dimension–personality disorder correspondence concerned Extraversion and Conscientiousness. Agreeableness and Neuroticism showed consistent

negative and positive associations, respectively, with disorders. The results for conscientiousness varied with the disorder. Openness to Experience did not play a substantial role in explaining disorder variance. Extraversion was positively related to Histrionic and Narcissistic disorders in adults, but this result was not replicated in the adolescent samples.

The overall conclusion to the developmental research that has been reviewed is that in both the areas of early temperament and later personality development in children and in adolescents, there is enough evidence to suggest a correspondence in the major personality factors found developmentally and those found in the Five-Factor Model in adults. This augurs well for developing an integrated model of personality across the normal and pathological areas, one that spans the different ages. However, clearly, much more research is needed. Moreover, it appears that important developmental issues have yet to be integrated into this research, such as inclusion of the stage concept in development.

Biopsychosocial Determinants of Personality Disorder

There are both biological and psychosocial influences on the development of personality and its disturbances. Magnavita (2004) reviewed major theories of the etiology of personality disorders, acknowledging that it is complex, multifactorial, and developmental. In the biopsychosocial model, the person is considered as a whole, as is the etiology in the development of personality disorder. No level is left out in trying to understand the person from the molecular to the ecological. In a variant of the model, Magnavita described that diatheses are vulnerabilities, including those from genetic influences, and stresses are factors that aggravate the vulnerabilities, producing development toward personality disorder. Broader theories that apply include systems theory, chaos theory, and complexity theory and computer models. Ecological influences include early attachment experiences, trauma, family dysfunction, and social and political forces.

In terms of genetic influences, Bouchard and Loehlin (2001; summarized in Caspi and Shiner 2006) undertook a comprehensive review of the literature and reported heritability estimates for the Big Five factors in the order of $.50 \pm .10$. There was little variation from one factor to the other in heritability estimate nor from one sex to the other. The results were found both for self-report inventories and peer ratings of personality. Longitudinal research over time with twins from adolescence onward indicates that genes do not "fix" personality but contribute to stability in individual differences in variation (Caspi and Shiner 2006). Caspi and Shiner reviewed research implicating a gene–environment

interaction in the development of personality. This occurs when the effect on an individual of a particular context depends on the individual's particular genotype or when exposure to a particular context moderates gene expression.

In terms of biopsychosocial influences on personality development, personality should not be considered an enduring entity that can be traced back to genes, early environment, or both, because it reflects a changing dynamic. Longitudinal research shows multiple influences and change rather than fixity (Roberts and DelVecchio 2000; summarized in Caspi and Shiner 2006). The rank-order stability over time in personality research is moderate in size, including from childhood to adulthood. It increases with age, which is reflective of plasticity in earlier ages. Moreover, the stability does not vary across the Big Five traits, which is consistent with the heritability research in that each of them reflects a partial genetic influence to the same degree. Furthermore, the results do not vary with method of assessment or sex, as with the heritability research.

Caspi and Shiner (2006) reviewed the models in the literature of how variation in personality relates to psychopathology. For example, developing personality may initiate processes that directly cause the development of psychopathology, or it may influence its course in an indirect manner. Conversely, early psychopathology may “scar” the individual, altering developing personality dynamics. This possibility speaks to the developmental elaboration of personality traits. Undoubtedly, in the development of personality and its disorder, there are early experiences related to attachment, abuse, and so on. At the same time, Caspi and Shiner (2006) listed six ways that early temperament can shape the development of later personality outside of experiential effects; for example, early temperament can shape how significant others respond to the child, how children appraise the environment and themselves, and how children make choices about or even alter and modify the environment.

Research is illustrating the psychobiological and neurological substrates that underlie the major robust personality traits (Paris 2006). In a neurobiological model quite consistent with the Five-Factor Model, Depue and Lenzenweger (2005, 2006; the model is summarized in Paris 2006) posit that Extraversion is related to dopaminergic brain systems and that the agentic component of the system involves a corticolimbic–striatal–thalamic network. Areas involved include the medial orbital cortex, amygdala, and hippocampus, as well as the nucleus accumbens, ventral pallidum, and ventral tegmental area dopamine projection system. As for Neuroticism, the neurotransmitter norepinephrine plays a role, and the locus coeruleus brain region plays a role, as does the amygdala and the bed region of the stria terminalis. For

the other major personality traits, Depue and Lenzenweger describe different neurobehavioral substrates. Paris (2006) indicated that the model deserves further research.

Personality pathology results from a complex process that culminates with disorder but that begins with plastic vulnerability. Personality reflects an ongoing dynamic that is influenced by genes and the environment, but the distinction between the two is not that clear, as in the examples of how early temperament influences interaction with the environment and later personality. In order to obtain a fuller understanding, the biopsychosocial perspective of personality disorder should examine the developmental and evolutionary mechanisms underlying the shaping and manifestation of the various personality disorders. Moreover, in any behavioral determination, there is always a third force, the person, with all her or his individual differences in terms of self-construction, ego, and identity.

Personality Disorder and Forensic Psychology

The presence of personality disorder in patients presents challenges in the healthcare setting (Sperry 2006). Without querying the validity of the disorders as presented in the DSM-IV, the article describes the six personality disorders analyzed by Sperry in terms of their influence on healthcare because this has import for assessing and for treating cases of psychological injury. It adds how these six personality disorders influence reactions that may arise to some typical scenarios in the insurance, forensic, and medicolegal contexts.

According to Sperry (2006), patients with obsessive-compulsive personality disorder present difficulties when their chronic condition is perceived as a threat. To gain some semblance of control, they may gravitate to alternative treatments, even at the sacrifice of their health. Or, because of dependency conflicts, they may gravitate to overuse of medical services in a fruitless search for cure. In terms of secondary gain, they may find that their condition relieves them from the burdens of responsibility and a fear of failure in discharging them.

As for forensic assessment and legal and related situations, I add that individuals with compulsive personality disorder may behave in a rigid fashion and, therefore, remain at risk for increased stress and concomitant bodily reactions, interfering with their recovery and prolonging their symptoms toward long-term disability. Also, they risk adhering in an overly slavish manner to authority figures and to rules and regulations. This may translate into doing whatever their insurance providers, treating professionals, attorneys, and worksite supervisors indicate to them, sometimes to their detriment.

For Sperry (2006), the histrionic personality brings with it attention-seeking and egocentrism in the healthcare setting. Given their profile, the dangers of conversion and dissociation increase, as does the pattern of “crying wolf.” As for secondary gain, their symptom magnification can lead to excessive attention-seeking and avoidance of conflict and responsibilities. In terms of forensic, legal, and related influences, I add that their overly dramatic style can lead to symptom magnification for attention-seeking purposes. This may lead to induction of the process of somatization, causing physical and psychological symptoms to appear or be maintained where none might have persisted otherwise. This may translate into an attitude of overly catastrophizing their event-related injuries, physical and psychological, when dealing with insurance providers, treating professionals, attorneys, and the worksite supervisors.

Sperry (2006) describes that individuals with dependent personality disorder may find advantage in a variety of secondary gains. They will adhere to treatment better, but they may loll in the need-of-care mode, avoid decision-making, and rely excessively on others. I add that the forensic, insurance, and legal contexts may induce individuals with dependent personalities to sit back rather than participate actively in therapy or to participate readily in therapy but without the degree of effort needed to improve or take responsibility for their health. Part of the motivation may be to have the insurance carrier or the tort action provide long-term benefits and financial compensation.

As described by Sperry (2006), patients with avoidant personality disorder will show an admixture of wanting social interaction yet feeling uncomfortable in it. They are anxious and have low self-esteem. This can lead to secondary gain in terms of relief from the anxiety of having to interact with others or taking responsibility in situations where fear of failure or criticism is possible. In terms of the forensic, legal, and insurance context, I add that individuals with avoidant personality disorder may develop interpersonal tension with treating professionals and staff, complicating therapy. They could develop the same difficulties with other workers in the field, such as assessors, insurance adjusters, and attorneys. They may act to have the case over with as soon as possible in order to return to their conflicted personal life to the detriment of their health. However, should the case not close as early as they would like, increased vicious circles in their symptomology may result. Their lack of improvement will be seen as a justification for seeking increased financial compensation.

For Sperry (2006), narcissistic personality disorder presents particular difficulties for individuals in the healthcare setting. “Their need to be superior will drive them to undermine medical authority roles and cast healthcare personnel into the role of servants” (p. 84). Treatment

adherence will flag, and abuse of healthcare providers may occur. In the forensic, insurance, and legal context, I add that this type of personality disorder will impede recovery, for example, by leading to maladaptive and erroneous thinking that the “great” life that they had been leading before the event at claim has been “destroyed.” Moreover, the narcissistic individual will believe that her or his life has been ruined not only by the event at claim but also by the incompetent treatment providers, the insurer, the attorneys defending her/him, and so on. There will be a deep sense of entitlement, leading to exaggerated claims for benefits and financial compensation.

According to Sperry (2006), patients with borderline personality can be especially problematic in the healthcare setting. They may exhibit continual lability and instability in all encounters with healthcare personnel. Secondary gain may include escape from conflicts, escaping retribution because of conflicts, and perversely enjoying the anger triggered in healthcare providers. I add that this type of personality disorder especially complicates the forensic, insurance, and legal contexts. The probability of expressing anger at forensic psychology insurance examinations is elevated, either in the assessment itself, or in railing afterwards with other workers on the case. The internal turmoil will act to sabotage all efforts at consistent treatment adherence, leading to descent to disability and angry claims for long-term benefits and financial compensation.

Sperry did not analyze the four other personality disorders for their impact on the healthcare setting. Therefore, I give a brief presentation in order to address possible forensic, insurance, and legal complications. The antisocial personality disorder concerns disregard for, and violation of, the rights of others (American Psychiatric Association 2000). One can expect that individuals with this disorder will obstruct the treatment process and will be aggressive with treatment providers. They will act to deligitimize the insurance carrier, threaten workers on the case, fire them, and so on. Paranoid personality disorder involves patterns of mistrust and suspiciousness, with attributions of malevolent intent to others. In cases of psychological injury, individuals with this disorder will not be able to appreciate the treatment process and the providers involved, will act to undermine their good efforts, and so on. Therefore, resultant claims made about an event at issue will be partly or fully unjustified. Schizoid personality disorder involves detachment from social relationships and a restricted emotional expressiveness. Individuals with this disorder remain aloof and distant, which will act against treatment adherence, or dealing with any type of worker on the case, thereby complicating benefit claims and financial actions. Schizotypal personality disorder is a “pattern of acute discomfort in close relationships, cognitive or perceptual distortions, and eccentricities

in behavior” (p. 685). This should lead to the same type of complications in cases of psychological injury as described for schizoid personality disordered individuals, but even more so.

The present section of the article outlines how various personality disorders may complicate dealing with psychological injuries. These speculations need further refinement and empirical investigation before they can be used in individual forensic assessments. Also, it needs to be kept in mind that pre-event psychological vulnerabilities, such as with personality disorders, do not necessarily constitute complete explanations of causality of psychological injury. They are but one component in the multifactorial array that constitutes the biopsychosocial factors impacting the individual.

In this regard, arriving at a diagnosis of personality disorder is not good reason to fully deny a claim. Granted, there may be reduction in financial compensation due to the presence of a personality disorder in a person with a psychological injury because of the types of complications that have been elucidated for treatment and recovery. However, when it is documented that there are legitimate injuries in a claim and that the personality disorder in a complainant is only a preexisting psychological vulnerability (there is a “thin” skull, in legal parlance), then the individual involved merits that the case be taken on its terms. That is, as with any valid claim, despite any complications, the injured individual deserves all the treatment that is merited (the person has to be taken as she or he is found, in legal parlance), and the individual involved should be allowed to seek the degree of financial compensation that such cases allow.

Development, Stages, Personality, Disorder

In order to construct a model of the relationship between the Five-Factor Model of normal personality dimensions and of development, in general, we need to consider several issues. First, the Five-Factor Model was developed atheoretically through factor analytic research of lexical terms. The participant population involved concerned adults, and these participants were not seen longitudinally. Finally, the research was not aimed at elucidating psychopathologies in personality. Therefore, at first glance, the Five-Factor Model would seem to have little to offer to any developmental model, especially ones that are theoretically driven, such as stage-based ones and ones that include disturbances in development within their scope. However, as has been shown, (a) the Five-Factor Model has been related to earlier developing temperamental and personality models in infants, children, and adolescents; (b) neurobiological substrates for each of them have been found, except

perhaps for Openness to experience; (c) the model has been shown to be applicable to personality disorders; and, as shall be shown, (d) models of developing personality do exist that lend themselves to inclusion of a Five-Factor approach to understanding developing personality disturbances. These relate especially to the self.

Self in Personality Disorder

That the study of the development of the self is essential to understanding personality disorders is becoming increasingly clear. For example, Livesley (2007) defined personality disorder as “the failure to solve adaptive life tasks relating to identity or self, intimacy and attachment, and prosocial behavior: in essence, the failure to establish coherent representations of self and others and chronic interpersonal dysfunction” (p. 203). In another article, he wrote that to understand personality disorder, we need to learn more about self and identity and how they fail.

Dimaggio et al. (2006) argued that personality disorder is characterized by damaged self-functions, such as problems with (a) organizing subjective experience into the form of narratives, (b) representing one’s mind and the mind of others, (c) functioning from appropriate interpersonal schemas, and (d) reasoning adaptively in decision making. For example, basing themselves on the classic work of Bakhtin, Dimaggio et al. described the multiple voices that the dialogical self possesses and how their narrative discourse is perturbed in personality disorder. Neuroscience findings about mirror neurons support the importance of interpersonal schemas and the need to interpret accurately the minds of others. In personality disorder, there are problematic self-states, inadequate representation of the self and self-narratives, and poor self-reflection and strategies in self-regulation. To conclude, Dimaggio et al. have made an important attempt to relate self and personality disorder, but their work lacks a sufficient developmental basis.

Marcia (2006) discussed personality development from the point of view of the development of ego identity in Erikson’s (1963) stage model of development over the lifespan. His approach presents a good starting point to developing further the relationship between Erikson and personality disorder. Marcia indicated that the development of integrated self and identity is dependent on a continuously adaptive ego functioning.

Gilmore and Dirkin (2001) argued that Loevinger’s model of ego development represents an important contribution to the study of personality. The concept of a developing ego is considered to encompass similar concepts and is viewed as a “master” unitary trait. It includes understanding of the self and other, self-esteem, and self-control.

For Loevinger (e.g., 1993; in Anastasi and Urbina 1997; Young 1997), the ability to form a self-concept, generally, increases with age, everything else considered. At first, the child forms a self-concept marked by stereotypes, conventions, and social acceptability. As the concept matures through ego development, it becomes more differentiated and realistic so that individuals accept who they are in all their idiosyncrasies. The model that Loevinger developed in light of this theory proposed multiple levels in ego development: presocial, impulsive, self-protective, rule-oriented, conformist, self-aware or conformist-conscientious, conscientious, individualistic, autonomous, and integrated. To measure her model of self-concept, Loevinger developed the Washington University Sentence Completion Test (e.g., Hy and Loevinger 1996; Loevinger 1985), which is concerned with the first eight of her nine ego levels (the first level was excluded, being preverbal in nature). Because the instrument is a sentence completion one, it needs work before it can be used in the forensic context. Nevertheless, the theoretical model from which it derives deserves more scrutiny in the study of personality disorder. The work of Loevinger represents a tradition in the study of personality that is rarely considered anymore. However, personality develops through stages, and much about personality considers the development of the self, the ego, and the identity. Therefore, in attempting to integrate into the traditional study of personality and its disorders a developmental perspective that includes self, ego, and identity, such as through Loevinger's model, the field may have a better grasp of personality and its disorders, how to carve the latter into distinct entities or categories, and consequently, how to understand better their determinants and treatment.

Young's Model of Self Development

Developmental theory debates the validity of stage concepts, but they remain powerful models both in the affective (e.g., Erikson) and cognitive (e.g., Piaget) domains. Stage models in development describe sequential steps in development that must appear in a given order without skipping any of the stages. Also, as development proceeds, each stage integrates or otherwise is impacted by the prior one(s). Each stage is a qualitatively distinct organization that unfolds universally but with limitations and individual differences. For example, in the cognitive area (Piaget), in cases of mental retardation, higher-order stages will not be reached. Also, individual differences in normal children will concern speed of acquisition, but not much more. In the affective arena, there is much greater room for individual differences. For example, in Erikson's psychosocial model (1963, 1968), there are eight stages in development throughout the lifespan, and each one presents

a crisis, challenge, or danger that developing individuals have to navigate. If they do not do it well, for intrinsic reasons, extrinsic ones, or both, smooth passage through the stage(s) that follow may be compromised. Erikson's most well known stages concern developing trust in the infant, developing identity consolidation in the adolescent, and undertaking responsibility, in generativity, in the adult.

In constructing my own developmental model (Young 1997), I based myself on a combination of Eriksonian and Piagetian formulations of developmental stages, seeking one structure that could accommodate both their sequences. In order to accomplish this goal, I described five neopiagetian stages, each with five recurring substages, yielding a 25-step sequence from the prenatal period through to the elderly period (see Table 1; substages not included). The cognitive stages resemble greatly those of Piaget and have been labeled the reflexive, sensorimotor, perioperational, abstract, and collective intelligence stages. The first stage reflects Piaget's first sensorimotor substage. This substage of Piaget is considered a separate stage in my model, leaving five other substages from the sensorimotor period of Piaget. These five sensorimotor substages formed the basis of the substage recursions found in all the stages of the model. I changed Piaget's terminology for the stage that follows the sensorimotor stage. In my model, the perioperational stage reflects a combination of Piaget's preoperational and concrete operational stages. When Piaget combined these stages, he referred to the representational period. The last stage in my model is called the collective intelligence stage, and it reflects the work of neopiagetians interested in an adult postformal stage, something that Piaget had excluded in his model. Elsewhere, I have shown that the five major stages in development that I have described seem to follow a sequence in development that passes from the physical and emotional to the cognitive, conscious, and spiritual (Young 2008).

In terms of the parallels across the cognitive and affective domains, Erikson's eight stages fit nicely, by extrapolation, into the second and fourth substages of each of the last four stages of the present model. On a rational basis, I added 17 other substages to fill out the sequence,

Table 1 Correspondence between the Five-Factor Model of personality and Young's model of developmental stages

Personality Factor	Developmental Stage
Extraversion	Physical (Reflexive)
Stability (Neuroticism)	Emotional (Sensorimotor)
Conscientiousness	Cognitive (Perioperational)
Agreeableness	Conscious (Abstract)
Openness to Experience	Spiritual (Collective Intelligence)

each marked by its own eriksonian-like challenges, crises, and issues. In effect, I had created a neoeriksonian model of development that expanded his original eight stages to 25 steps (five substages within each of five stages). By having an affective eriksonian sequence correspond in a one-to-one fashion with a cognitive piagetian sequence, I provide a universal scaffold of stages across the cognitive and affective realms on which individual differences can be described.

My next step was to develop a 25-step model of the acquisition of the self that corresponds to the 25 steps in piagetian and eriksonian development that is proposed (see Table 2). The particular model that I have presented addresses the concept of the “I” self rather than the “Me” self. I found that the work of Sroufe (1990, 1996), Selman (1980; Selman and Demorest 1986; Yeates et al. 1990), and Loevinger (1976, 1987, 1993, 1994) on the development of the self in the infant, child and adolescent, and adolescent and adult, in particular, respectively, mapped almost perfectly onto the model, demonstrating its construct validity. For each step of self development presented in the model, I provided a name partly based on the literature, often borrowing from Loevinger, for example, or I used a general one, if appropriate, as with the earliest steps. At the end of the description of each step, I provided a second name that is more directly related to my model, and included the names used by Piaget and Erikson, where applicable.

The tables that present the model offer a description of components and precursors in the development of the self, the ego, and identity that can facilitate understanding of normal personality development and how it can go awry. The model may offer a basis for further work on normal and abnormal personality development across the lifespan and, therefore, on how personality disorder emerges and changes over age.

Young’s Stage Model in Relation to the Five-Factor Model

The next issue with which I deal is how we can extrapolate from the stage model of the development of the self presented to the development of personality and its disorders. To respond to the question posed, we need to consider (a) the relationship of the developmental stages to personality factors, (b) how the factors develop through the stages, (c) and whether study of the self in terms of the stages enhances understanding of personality and its disorders.

First, in Young (1997), I queried what is the appropriate order of emergence of aspects of the Big Five personality factors in relation to the corresponding stage of development proposed. I had argued that the appropriate sequence of Big Five personality factors, in terms of their order of

development of relevant components and precursors, consists of extraversion, agreeableness, conscientiousness, stability (neuroticism), and openness to experience. Based on the comprehensive literature reviews surveyed in the present article, I now suggest that the personality dimensions of stability and agreeableness should be switched in the proposed progression, leaving a sequence in personality development that consists of the emergence of components and precursors of the traits of *extraversion, stability (neuroticism), conscientiousness, agreeableness, and openness to experience*.

For example, in the proposed sequence in the emergence of personality factors, the first stage brings with it important activity components to the neonate, the second emotional ones to the infant, the third application of effort to the child, the fourth a capacity to focus and manage to the adolescent, and the fifth intellectual priority to the adult. Following, in part, Depue and Lenzenweger (2005), the extent of problems that may develop in the respective developmental stages in terms of these components of personality dimensions extend, respectively, into action and initial agentic components, social and affiliation ones, academic and self-control ones, interpersonal relationship and conscientiousness ones, and existential and spiritual ones.

On the one hand, this model may seem sufficient to represent the relationship between personality and development because, by showing a possible relationship to the Big Five personality factors and the present stages of development, the groundwork is laid for understanding how the personality factors may go awry. However, I note that the proposed order of development of the five major dimensions of personality should not materialize as clearly as presented. For example, Erikson (1968) proposed that identity is not only the critical developmental issue in the adolescent stage of development but it is also at issue in the stages both preceding and following the adolescent one, albeit to lesser degrees. Similarly, I propose that components and precursors of all the five major personality dimensions surface in development right from infancy and that, one by one, they take a prominent role in the sequence indicated, without denying that in each stage all five are relevant to some degree. Therefore, the components and precursors of each of the personality dimensions of the Five-Factor Model are posited as developing early in life while at the same time, each one is hypothesized to manifest as primary in development at its presumed focal stage.

Next, I suggest that we can proceed one step further to specify the challenges, crises, or dangers that mark the developmental passage from one stage in self development to the next. By using the 25 proposed steps in self development as a scaffold, it may be possible to differentiate better the manner in which the Big Five emerge in

Table 2 Substages in self development in the reflex stage

Stage	Self Development
<i>Fetal life</i>	Being not quite a self at this juncture, the moniker “elf” will do to describe the nonself
<i>Premature self I</i>	Motor skills unexpectedly are put to test in fragile, vulnerable prematures. Even nursing acts are problematic. We can speak of a <i>reflexive preself</i>
<i>Premature self II</i>	Survival being more certain, the inherent openness of babies manifests. Contact and information are sought even in the precarious circumstances of the hospital. Given the grounding of behavior in primitive control schemata, there appears to be a psychological self, which we can label the protoself. Since it is especially action- and target-oriented, it can be characterized as the <i>corporal protoself</i>
<i>Emergent self I</i>	Full-term newborns manifest integrating cross-modal matching abilities tied to corresponding production schemes (e.g., imitating mouth opening). This primary perceptual/representational capacity may be affiliated with perceptual learning, simple classical conditioning, and/or priming in memory. Priming is a nonconscious, facilitative effect in memory and functions to improve perceptual identification of objects. Helplessness and calling behaviors elicit caregiving, making much of the intramodal world socioaffective. The emerging self seems to be a <i>perceptual intermodal self</i> . Neisser (1991) takes a similar position, for he calls the self in this period the perceptual self, and attributes to it two components- the ecological self and the interpersonal self
<i>Emergent self II</i>	Infants in the next weeks develop the capacity to integrate separate schemes into more unified structures, building intermodal integration skills. Usually schemes function with concomitant, most basic emotional overtones and are body-focused. We can designate this self the <i>primary emotional self</i>
<i>Core, coordinated interaction self</i>	Young infants’ scheme coordination skills lead to dyadic interchanges. Invariant patterns are established, but especially because of caregiver framing. This permits the infants’ inherent active nature to achieve agency through participation in regulatory “games” played, connectedness of one’s own actions and transactions, control of emotional reactions in the caregiver, etc. At this point, the self seems to be an <i>inter-coordinated incipient social self</i>
<i>Core initiatory self</i>	At midyear, we see a more hierarchical behavior (e.g., context-created, purposeful behavior, Piaget; generalized sense of personal agency; Case 1991), which fosters social initiation, emotional focus, and particularities in relationships. A sense of trust in the surround, especially caregivers, develops when that surround facilitates successful goal-oriented behavior. Erikson’s psychosocial stage of trust vs. mistrust also fits here, and suggests we call the self of this period the <i>end-focused trusting self</i>
<i>Subjective attachment self</i>	Given the emergence of primitive representational images, and the beginning of (hidden) object permanence, intentions come to guide behavior before its onset. Thus, mental states of self and other are better coordinated, producing more friendliness, sharing, referencing of the other (and indirect agency; Case 1991). Attachment to the caregiver becomes active (e.g., searching when the caregiver leaves, calling/protesting her or his departure). The self at this level seems an especially <i>permanent intersubjective self</i>
<i>Verbal autonomous self</i>	Linear inner plans in one year-olds allow increased autonomous action even if in opposition to caregiver wishes. Also with planning capacities, infants can entertain leaving their caregivers’ base to explore and return in a psychological and not only a physical sense. Caregivers co-create meaning with infants through language as they toddle about exploring and returning for refueling. Thus, language facilitates the development of Erikson’s autonomy through its distal and shared modalities. The conceptual awareness of self as an independent actor emerges. Thus, we can speak of an <i>independent autonomous self</i>
<i>Verbal constancy self</i>	In older toddlers, symbol plans, which permit mental combination, underlie behavior. Also, evaluations emerge due to these plans. Thus, social interchange becomes a complex interdigitation of plans, and a mutual awareness that the other has plans and is aware, producing the beginnings of true role taking and empathy. Toddlers develop self-constancy, whereby they realize that they can actively oppose caregivers and either reinstate their relationship or have caregivers cooperate. Thus, toddlers symbolize the self as a separate entity, seeing it as a willful agent of their symbolic plans. (Toddlers can use the words “I” and “Me” at this age). In short, the self at this age can be called an <i>interior implicative self</i> . Toddlers both implicate (evaluate) cognitively and implicate themselves (interdigitate) socially
<i>Egocentric-centrated self</i>	Symbol plan coordination allows young children to organize cohesive, coherent wholes in behavior (e.g., in language utterances, story events, parallel tasks, and in understanding the social system of the family with its multiple roles; Case 1991). But coordinations involving the self are

Table 2 (continued)

Stage	Self Development
	egocentrically hierarchized with no or little flexibility in thought to permit decentration on the other. This cognitive egocentrism leads to a lack of differentiation of the physical and psychosocial features of the other and a lack of appreciation of their perspective. The one self is an incorporating, coupling one, and so it is labeled the <i>coupling egocentric-centrated self</i>
<i>Initiative self</i>	Preschoolers' predilection for hierarchizing symbol plans directs them to think of themselves as dominant, or with initiative in their daily challenges. The differentiation of the other is from within the children's projected perspective. This can lead to the Oedipal situation of fantasizing about the opposite-sex parent. In summary, we can refer to a <i>hierarchizing initiative self</i>
<i>First-person perspective taking, unilateral self</i>	Symbol plan systems allow rule systems to be mastered and dimensions of self- and other-ranking to be apprehended. This enables identification with parental attributes and sex-appropriate gender roles. Such perspective taking is accompanied by clear differentiation of others' psychological characteristics. But a subjective, one-way understanding of the other predominates. Thus, we can speak of a <i>systematizing primary-perspective self</i>
<i>Reciprocal, second-person perspective-taking, self-reflective self</i>	Concrete operations permit school-age children to think more logically, facilitating the "industry" of school. This logic is also turned inward, for children evaluate their own thoughts, and is also turned toward others, for their perspectives are evaluated. Others are understood to perform the same "other" evaluation (i.e., evaluation of the children themselves). Loevinger calls the equivalent of this stage the self-protective stage 1 ^a . The label <i>concrete operational secondary-perspective self</i> seems appropriate here
<i>Third-person, perspective-taking, mutual self</i>	Subteens' logic in imagination leads to multiple exploration. They remove themselves from the self system. A different self is imagined and a mutuality in self- and other-perspective taking takes hold (third-person perspective-taking). An independence from one's own self accrues through immersion in others. Loevinger names the equivalent of this stage the rule-oriented stage. At this level there seems to be a <i>projecting tertiary-perspective self</i>
<i>In-depth, societal-symbolic perspective-taking self</i>	Young adolescents can coordinate separate pathways of logic in imagination, precipitating the acquisition of formal abstract thought. Such logic enables creative conscious awareness, where adolescents have metacognitions about their cognitions and motives. Past and future are analyzed, linked, and chained, or coordinated to give a Januslike vision in the present. Conscious esteem develops for the self, the other, and ideas. Abstract logic allows one to see the self and other as complex entities functioning simultaneously at multiple conscious and unconscious levels. If confusion sets in, excessive conformity may result. Loevinger terms the equivalent of this stage the conformist stage. At this level the self may be described as the <i>abstractly aware conscious self</i>
<i>Conscientious-conformist self</i>	Adolescents can now weigh multiple variables and logically proceed to attempt to solve problems about the self, the wider world, and their relation. Accentuated by pubertal awakening, this process can lead to an evaluation of self-identity, ideology, and place in the time course. A sense of the real self, truly personal goals, concerns about personal adjustment, and options concerning the self emerge. Loevinger labels the equivalent of this stage the transitional one of the conscientious/ conformist stage. One may call the self in this period the <i>identity-seeking self</i>
<i>Conscientious self</i>	The capacity of late adolescents for abstract systematization permits systemic understanding; personal and other perspectives can coexist in one integrated structure. Social and societal relationships are seen as components of a larger whole to which the individual must contribute. With this viewpoint come self-constructed standards, or criteria applied in critical thought. Loevinger calls the equivalent of this stage the conscientious stage. Late adolescents seem to possess a <i>maturing conscientious self</i>
<i>Individualistic self</i>	The dialectical, relativist thought of youth permits the self to be seen as unique yet engaged in a deep mutuality with differentiated others. Loevinger refers to the equivalent of this stage the individualistic stage. We can call this self the <i>mutual relativistic self</i> , for there is a profound nonabsolutist immersion in the self, the other, and their relation
<i>Autonomous self-sufficient self</i>	Adults possess abstract integration skills, which enable a universal empathy. They recognize others' need for individualized independence within a framework of reciprocal interdependence. They accept others' conflicts or ambiguities as their own. Loevinger indicates that the equivalent of this stage is the autonomous stage. This self seems an <i>accepting universal self</i>
<i>Postautonomous self</i>	Metaphysical reasoning in subdomain or generic theory- procedure coordination engenders an appreciation of the wholeness of the web of being that allows our participation in this process. Loevinger calls the equivalent of this stage the postautonomous stage 1 ^b . This self is termed a <i>holistic metaself</i>

Table 2 (continued)

Stage	Self Development
<i>Generative self:</i>	With hierarchization of the coordination in the above process, a spreading generativity (e.g., mentoring) is fostered. We can speak of an <i>activating generative self</i>
<i>Midlife self</i>	Domain systematization parallels the transitional midlife period. Generativity is more elaborate and systemic. It is coupled with a transformative rethinking of the self and contemplation of the end of those phases where one's potential and dream seemed to have no temporal or physical constraints. We can refer to a <i>catalytic midlife self</i>
<i>Ego integrity self</i>	Inter-domain thought is accompanied by satisfaction and acceptance of one's life course. The self appears a <i>satisfied ego integrity self</i>
<i>Integrated self</i>	In the final phases of life, often there is a wider knowledge, which is accompanied by cathartic or purifying experiences. The elderly become impregnated by a holistic sense of wisdom and also feel communion or reverence with what they regard as holy. In their most meditative moments, they hope to transcend, and in consequence to be one with mystery. Loevinger gives the term for the equivalent of this stage the integrated stage. Self development culminates in a <i>purified integrated self</i>

^a It is difficult to find exact equivalents in the present model for the presocial, impulsive stages, but without specifying which of the five steps applies in each case, they may reflect the general reflexive and sensorimotor stages, respectively

^b Loevinger has no equivalent for the next three stages of the current model

development and how disturbances therein may arise. This would lead to a 25-step model of opposing poles in self development, one positive and one negative, which could address personality disorder configurations and influences in development. This theoretical work is beyond the scope of the present article, but I proceed to discuss aspects related to it.

In the following, I address further how a developmental model of the Big Five that is embedded in a developmentally informed model of the self can facilitate understanding of both normal personality development and the development of personality disorders. On the one hand, it could be argued that extreme difficulties in psychological adjustment in any of the five proposed major stages in development, simplified in my model as the sequence of physical, emotional, cognitive, conscious, and spiritual development, can lead to profound disturbances in self development and in personality development. Therefore, should such extreme problems arise in development, one would find compromises of adaptive growth and integration in terms of the sequential acquisition of the personality dimensions of extraversion, stability (neuroticism), conscientiousness, agreeableness, and openness to experience.

Developmental disturbances along these lines could take the form of conflicts in negotiating the poles of the dimensions. For example, for the first stage, there could be excessive or otherwise problematic behavioral, emotional, and cognitive reflections of introversion, of extraversion, or of their conflict. Other stages may evidence the equivalent dynamic, with the complication that unresolved vestiges of prior developmental difficulties infiltrate the clinical picture for any stage at issue. Moreover, these

complications may involve components and precursors of any of the stages, given their broad unfolding as development proceeds. Also, the developmental maladaptation that can derive in the proposed progression can be cumulative and will vary from person to person in the particular combination of vulnerabilities in each of the stages. Furthermore, because each stage is associated with particular developmental challenges, crises, and dangers, and the spectrum of developmental acquisitions that emerges spans multiple areas, such as the self, conception of the other, motivation, intellect, and so on, there may be deep markings of difficulties in development in key areas related to personality development beyond what has been already described. In this regard, the 25-step model of self development that has been proposed can serve to help us understand the facets, subdimensions, or traits of the growth of personality beyond the major dimensions or domains of the Big Five.

In Young (1997), I pointed out that depending on the regime of cognitive (mis)perception of the other the growing person is exposed to, she or he will express reactions that may be either more overt or covert. I hypothesized that the cognitive (mis)perception of the other is conditioned by the developmental stage and thinking capacities that one is willing to ascribe to the other. If one is treated from the perspective that, at best, one is at the level of being reflexive, abuse is potentiated by the misperceiver because the person is not even considered to have her or his own emotions and cognitions. If one is treated from the cognitive level where, at best, one is sensorimotor, any form of independent thought is suppressed. If individuals are perceived from the vantage point that, at best, they possess

some thought (in the perioperational mode), they are canalized toward thinking only the way that the misperceiver thinks. If the person is permitted regular abstract thought but with some constraints in direction, an inward turning may result. Should individuals grow in an environment that continuously respects their full potential, everything else being equal, they will grow to want to promote the same in their charges and circles, from children to any other.

This developmental model may help explain the sources of difficulties in personality development from an experiential or environmental point of view. In Young (1997), I argued that in growing, if one is treated reflexively, reactions may range from obliteration to nihilism. I borrowed from Clinchy's and Belenky's (Clinchy 1993a, b; Belenky et al. 1986) conception of voice, which seemed to present a five-step progression that matches the current five developmental stages. They suggested that women may react to the regimes that they experience with (a) silence (akin to my concept of reacting with either a sense of obliteration or with nihilism), (b) receiving knowledge, at best, (c) knowing only subjectively, (d) moving on to analyzing or to empathizing, and (e) constructing knowledge by putting together these two latter processes. To continue with my application of the Clinchy and Belenky model to my own, for any misperception of the person at the sensorimotor level, the misperceived individual may react with sterilization (receive knowledge) or revolution. At the next thinking level, the reaction to misperception could involve assimilation (subjective knowing) vs. resistance. Next, for the abstract level, when analysis and empathy are not quite joined, we could find vacillation between involution and evolution despite any obstacles presented. In the most integrated phase, where knowledge is genuinely constructed, there is either expressing equitable treatment of the other or emancipation toward that outcome.

Models of the development of personality disturbances and disorder may profit from examining the developmental progression proposed in terms of the cognitive misperception of the other and the growing person's possible inward and outward reactions to the misperception. At the same time, I add that beyond the question of misperceiving the person so that she or he is functioning, at best, at a particular stage, it is possible that the environment surrounding the person attempts to fully suppress any growth in a particular stage. The individual may not only fixate on or regress to a particular stage for a variety of reasons but the environment may also act to totally suppress any manifestation of a stage, not that this had been the open goal; it is a byproduct of abuse, neglect, and so on. In the worst cases, the person is annihilated either physically or psychologically, as in, respectively, cases of

infanticide or locking children in basements or cupboards for years on end. In this regard, the development of personality disorder is potentiated even more, and the person, once more, may react either covertly or overtly. In the case of attempted full developmental stage annihilation by the misperceiver, the reactions on the part of the individual being treated this way may be either (even more) self-destructive or (even more) destructive of the other. Moreover, as development proceeds, the individual may take on the destructive habits. This may take place beyond any instigation by an immediate stimulus from the environment because the person actively participates in their manifestation in a process of self-subjugation to them.

Recommendations for the DSM V

How do we move from such a complex model of the development of personality and its psychopathology to a better system of classification of personality disorder? In the current system governing the field, guided by the DSM IV's presentation of ten major personality disorders, workers have attempted to revise either the existing categorical structure or to propose dimensional alternatives or somehow to combine them. However, little attention is paid to the developmental origins of personality and the disorders. To be valid, a nosology of any type of adult psychology must be predicated on intimate knowledge of its developmental, biological, evolutionary, and environmental determinants, in a full-scale biopsychosocial model. From such knowledge, it is easier to construct a typology of natural kinds that includes the range of variations essential to understanding individual differences. It is not so much that we have to justify the current conceptualization of personality disorders in terms of possible developmental and related biopsychosocial origins but that we have to find ways to justify approaching their understanding and revision in terms of acquiring better understanding of personality development and how it can go awry at multiple biopsychosocial levels.

Overall, then, I believe that there is some validity to the major current endeavors to understanding and assessing personality disorder. Clearly, the Five-Factor Model has demonstrated empirical soundness, and it can be related to development models, reinforcing its construct validity. Criticisms that it cannot apply easily to all types of personality disorders belie the argument that it is grounded developmentally and theoretically, and the challenge is to construct a classification of valid personality disorders that fits it, rather than vice versa. The nuanced complexity that is development can accommodate the extremes in classification of disordered behavior, given their origins in

development. This is not to say that we should throw out the baby with the bath water; there is decent validity in many aspects of the DSM's approach to personality disorder and in the recommendations that have been made to revise it. Perhaps there are better ways of showing how specific personality disorders reflect combinations of problems according to the Big Five, the developmental stages that are seen to underlie them, or the particular substages or facets of the development of the self that may mark them.

For whatever system of classifying personality disorders that will be included in the DSM V, careful attention should be paid to specifying their developmental origin, their relationship to developmental models, and a more complete biopsychosocial understanding. Rather than considering personality disorders to be unchanging, entrenched static entities, their capacity to change, to vary along relevant dimensions, and to respond to dynamic factors in the person's context should be considered.

Forensically, in general, and in terms of the field of psychological injury and law, in particular, it is important that a reliable and valid system of classifying personality disorder is included in the DSM V. Livesley's (2007) hierarchical model of using several primary traits as diagnostic criteria for each of the ten major personality disorders (and the extra appended ones), with each rated on a three-point scale, might be a starting point in this regard. However, his proposal lacks the developmental and dynamic underpinning needed to make it fully biopsychosocial in orientation. As for measuring personality disorder, there are promising measures related to the Five-Factor Model and its variants, such as the PSY-5, but further work is needed to render them more sensitive to the developmental context.

Implications

In assessments undertaken in the forensic context, the assessor needs to be as comprehensive as possible. This includes investigating developmental history to the degree possible, for example, with respect to psychological vulnerabilities that may have developed and psychopathology. An important consideration is to determine whether the individual is expressing an overt personality disorder or other complications related to personality. These may be evident on psychometric testing, but confirmation from clinical interviews with the person or a significant other is necessary.

Moreover, the presence of a personality disorder does not mean that it was always full-blown, that it cannot be treated, that it stands as the full causal source of all event-related and post-event psychological reactions, rather than the event itself and its consequences, and so on. This being said, there are instances where an assessor is justified in concluding that a

personality disorder is at the root of all presenting symptoms, an event at claim notwithstanding, that it is deeply ingrained, and that the evidence reveals that it had been a negative influence on the person long before the event at claim, with clear origins in childhood.

The assessor needs to be aware of the normal course of personality development, how it may go awry, and how critical components related to it, such as self-development, grow or are compromised. At the same time, the assessor needs expert knowledge of the DSM classification system of personality disorder; yet, she or he must be cognizant of its limitations and how it may change in the DSM V. The informed assessor can deal better with evidence proffered to court that deals with personality when the needed information on the individual has been comprehensively gathered, and when critical, scientific analysis is brought to bear on the data, the classification system used, and the weaknesses inherent in the system.

Summary

The premises of the present article are enumerated. (a) The criticisms of the DSM (APA 2000) approach to personality disorders are justified. A new paradigm is needed. (b) The best approach to understanding personality disorder lies in the developmental perspective. (c) Therefore, neither the existing categorical nor the dimensional approaches are sufficient in the area of personality disorder, given their general lack of developmental perspective. (d) This lack applies to both the theoretical understanding of the area and to any instruments that are used in assessment. (e) Existing instruments need more conceptualization and research on psychometric properties (reliability, validity) to apply well to cases of psychological injury.

(f) There need to be ways of integrating models of personality disorders and models of normal personality. (g) The Big Five model of personality represents an avenue through which this goal may be accomplished (Five-Factor Model; Costa and Widiger 2002). The five major dimensions of personality according to the Five-Factor Model include: Neuroticism (stability), Extraversion, Agreeableness, Conscientiousness, and Openness to Experience. (h) The NEO PI-R (Costa and McCrae 1992) is used to measure the Big Five, and it is marked by excellent reliability and validity. However, the NEO PI-R has not been standardized to address typical forensic concerns. (i) The MMPI-2 (Butcher et al. 1989, 2001) has been expanded to include a five-factor dimensional structure of personality psychopathology traits (PSY-5; Harkness et al. 1995), and the MMPI-2 has a rich history of forensic applications. The PSY-5 is a dimensional approach to personality scaling that reflects a clear model of personality

pathology (Aggressiveness, Psychoticism, Disconstraint, Negative Emotionality or Neuroticism, Introversion or Low Positive Emotionality). It has sufficient theoretical roots that can be related to the Five-Factor Model. (j) Among others, the work of Bagby et al. (2005) is demonstrating how the Big Five may be relevant to the DSM. (k) Further work in the area may need to expand Loevinger's Sentence Completion Test so that it is applicable to the forensic context. (l) The Five-Factor Model has been criticized for being atheoretical, but I show how it fits nicely with Young's (1997) model of development of the self, which integrates Loevinger's ego development work. Also, I have shown how each of the factors can be related to a particular developmental stage, as described in Young (1997; slightly revised in Young 2008). Therefore, the components and precursors of the each of the personality dimensions of the Five-Factor Model are posited as developing early in life, while at the same time, each one comes to the fore in development at one particular stage. The particular order in the emergence of Five-Factor Model personality dimensions as cardinal developmental challenges is proposed to be: extraversion, agreeableness, conscientiousness, stability (neuroticism), and openness to experience. (m) I also present a 25-step model of self development based on Young's stage model of development. I suggest that it can serve as the basis for a better understanding of personality development and how it can become disturbed and lead to disorder.

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References

- Achenbach, T. M., Dumenci, L., & Rescorla, L. A. (2003). DSM-oriented and empirically based approaches to constructing scales from the same item pools. *Journal of Clinical Child and Adolescent Psychology*, 32, 328–340.
- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders: Text revision* (4th ed.). Washington, DC: Author.
- Anastasi, A., & Urbina, S. (1997). *Psychological testing*. Upper Saddle River: Prentice Hall.
- Arbisi, P. A., & Ben-Porath, Y. S. (1995). An MMPI-2 infrequent response scale for use with psychopathological populations: The Infrequency Psychopathology scale, F(p). *Psychological Assessment*, 7, 424–231.
- Arnau, R. C., Handel, R. W., & Archer, R. P. (2005). Principal components analyses of the MMPI-2 PSY-5 Scales: Identification of facet subscales. *Assessment*, 12, 186–198.
- Bagby, R. M., Costa Jr., P. T., McCrae, R. R., Livesley, W. J., Kennedy, S. H., Levitan, R. D., et al. (1999). Replicating the Five-Factor Model of personality in a psychiatric sample. *Personality and Individual Differences*, 27, 1135–1139.
- Bagby, R. M., Costa Jr., P. T., Widiger, T. A., Ryder, A. G., & Marshall, M. (2005). DSM-IV personality disorders and the Five-Factor Model of personality: A multi-method examination of domain and facet-level predictions. *European Journal of Personality*, 19, 307–324.
- Belenky, M. F., Clinchy, B. M., Goldberger, N. R., & Tartule, J. M. (1986). *Women's ways of knowing: The development of self, voice, and mind*. New York: Basic.
- Ben-Porath, Y. S. (2006). Differentiating normal from abnormal personality with the MMPI-2. In S. Strack (Ed.), *Differentiating normal from abnormal personality* (2nd ed., pp. 337–381). New York: Springer.
- Bouchard, T. J., & Loehlin, J. C. (2001). Genes, evolution, and personality. *Behavior Genetics*, 31, 243–274.
- Butcher, J. N. (1999). *A beginner's guide to the MMPI-2*. Washington, DC: American Psychological Association.
- Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A., & Kaemmer, B. (1989). *Minnesota Multiphasic Personality Inventory-2 (MMPI-2): Manual for administration and scoring*. Minneapolis, MN: University of Minnesota Press.
- Butcher, J. N., Graham, J. R., Ben-Porath, Y. S., Tellegen, A., Dahlstrom, W. G., & Kaemmer, B. (2001). *MMPI-2: Manual for administration, scoring, and interpretation, revised edition*. Minneapolis: University of Minnesota Press.
- Case, R. (1991). Stages in the development of the young child's first sense of self. *Developmental Review*, 11, 210–230.
- Caspi, A., Roberts, B. W., & Shiner, R. L. (2005). Personality development: Stability and change. *Annual Review of Psychology*, 56, 453–485.
- Caspi, A., & Shiner, R. L. (2006). Personality development. In W. Damon, R. Lerner, & N. Eisenberg (Eds.), *Handbook of child psychology* (vol. 3, 6th ed., pp. 300–365). New York: Wiley.
- Clinchy, B. M. (1993a). Ways of knowing and ways of being: Epistemological and moral development in undergraduate women. In A. Garrod (Ed.), *Approaches to moral development: New research and emerging themes* (pp. 180–200). New York: Teachers College Press.
- Clinchy, B. M. (1993b). Commentary. *Human Development*, 38, 258–264.
- Costa Jr., P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI): Professional manual*. Lutz: Psychological Assessment Resources.
- Costa Jr., P. T., & Widiger, T. A. (2002). *Personality disorders and the Five-Factor Model of personality* (2nd ed.). Washington, DC: American Psychological Association.
- Davidson, R. J., Pizzagalli, E., Nitschke, J. B., & Kalin, N. H. (2003). Parsing the subcomponents of emotion and disorders of emotion: Perspectives from affective neuroscience. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 8–24). New York: Oxford University Press.
- De Clercq, B., & De Fruyt, F. (2003). Personality disorder symptoms in adolescence: A Five-Factor Model perspective. *Journal of Personality Disorders*, 17, 269–292.
- De Clercq, B., De Fruyt, F., & Leeuwen, K. (2004). A little five lexically-based perspectives on personality disorder symptoms in adolescence. *Journal of Personality Disorders*, 18, 477–496.
- Depue, R. A., & Lenzenweger, M. F. (2005). A neurobehavioral dimensional model of personality disorders. In M. F. Lenzenweger, & J. F. Clarkin (Eds.), *Major theories of personality disorder* (2nd ed., pp. 391–453). New York: Guilford Press.
- Depue, R. A., & Lenzenweger, M. F. (2006). A multidimensional neurobehavioral model of personality disturbance. In R. F.

- Kruger, & J. L. Tackett (Eds.), *Personality and psychopathology* (pp. 210–261). New York: Guilford Press.
- Dimaggio, G., Semerari, A., Carcione, A., Procacci, M., & Nicolo, G. (2006). Toward a model of self pathology underlying personality disorders: Narratives, metacognition, interpersonal cycles, and decision-making processes. *Journal of Personality Disorders*, 20, 597–617.
- Erikson, E. H. (1963). *Childhood and society* (2nd ed.). New York: Norton.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: Norton.
- Fowler, K. A., O'Donohue, W., & Lilienfeld, S. O. (2007). Introduction: Personality disorders in perspective. In W. O'Donohue, K. A. Fowler, & S. O. Lilienfeld (Eds.), *Personality disorders: Towards the DSM-V* (pp. 1–20). Los Angeles: Sage.
- Gilmore, J. M., & Dirkin, K. (2001). A critical review of the validity ego development theory and its measurement. *Journal of Personality Assessment*, 77, 541–567.
- Graham, J. R. (2006). *MMPI-2: Assessing personality and psychopathology* (4th ed.). New York: Oxford University Press.
- Gray, J. A. (1987). *The psychology of fear and stress* (2nd ed.). New York: McGraw-Hill.
- Gray, J. A. (1990). Brain systems that mediate both emotion and cognition. *Cognition and Emotion*, 4, 269–288.
- Harkness, A. R., & McNulty, J. L. (1994). The personality psychopathology five (PSY-5): Issues from the pages of a diagnostic manual instead of a dictionary. In S. Strack, & M. Lorr (Eds.), *Differentiating normal and abnormal personality*. New York: Springer.
- Harkness, A. R., McNulty, J. L., & Ben-Porath, Y. S. (1995). The Personality Five (PSY-5): Constructs and MMPI-2 Scales. *Psychological Assessment*, 7, 104–114.
- Hy, L. X., & Loevinger, J. (1996). *Measuring ego development* (2nd ed.). Mahwah: Erlbaum.
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin, & P. J. Oliver (Eds.), *Handbook of personality: Theory and Research* (2nd ed., pp. 102–138). New York: Guilford Press.
- Kohnstamm, G. A., Halverson Jr., C. F., Mervielde, I., & Haville, V. (1998). *Parental description of child personality: Developmental antecedents of the Big Five*. Mahwah: Erlbaum.
- Lenzenweger, M. F., & Clarkin, J. F. (2005). The personality disorders: History, classification, and research issues. In M. F. Lenzenweger, & J. F. Clarkin (Eds.), *Major theories of personality disorder* (2nd ed., pp. 1–42). New York: Guilford.
- Livesley, J. W. (2007). A framework for integrating dimensional and categorical classifications of personality disorder. *Journal of Personality Disorders*, 21, 199–224.
- Loevinger, J. (1976). *Ego development: Conceptions and theories*. San Francisco: Jossey-Boss.
- Loevinger, J. (1985). Revision of the Sentence Completion Test for ego development. *Journal of Personality and Social Psychology*, 48, 420–427.
- Loevinger, J. (1987). *Paradigms of personality*. San Francisco: Freeman.
- Loevinger, J. (1993). Measurement of personality: True or false. *Psychological Inquiry*, 4, 10–16.
- Loevinger, J. (1994). In search of grand theory. *Psychological Inquiry*, 5, 142–144.
- Magnavita, J. J. (2004). Classification, prevalence, and etiology of personality disorders: Related issues and controversy. In J. J. Magnavita (Ed.), *Handbook of personality disorders: Theory and practice* (pp. 3–23). New York: Wiley.
- Marcia, J. E. (2006). Ego identity and personality disorders. *Journal of Personality Disorders*, 20, 577–596.
- Mattia, J. I., & Zimmerman, M. (2001). Epidemiology. In W. J. Livesley (Ed.), *Handbook of personality disorders: Theory, research and treatment* (pp. 107–123). New York: Guilford.
- Measelle, J., John, O. P., Ablow, J., Cowan, P. A., & Cowan, C. P. (2005). Can children provide coherent, stable, and valid self-reports on the big five dimensions. *Journal of Personality and Social Psychology*, 89, 90–106.
- Mervielde, I., Buyst, V., & DeFuyt, F. (1995). The validity of the Big-5 as a model for teacher ratings of individual differences among children aged 4–12 years. *Personality and Individual Differences*, 18, 525–534.
- Mervielde, I., & DeFuyt, F. (2000). The Big Five personality factors as a model for the structure of children's peer nominations. *European Journal of Personality*, 14, 91–106.
- Mervielde, I., & DeFuyt, F. (2002). Assessing children's traits with the Hierarchical Personality Inventory for Children. In B. De Raad, & M. Perugini (Eds.), *Big Five assessment* (pp. 129–146). Seattle: Hogrefe and Huber.
- Mervielde, I., De Clercq, B., De Fruyt, F., & Van Leeuwen, K. (2005). Temperament, personality, and developmental psychology as childhood antecedents of personality disorders. *Journal of Personality Disorders*, 19, 171–201.
- Miller, J. R., Bagby, R. M., Pilkonis, P. A., Reynolds, S. K., & Lynam, D. R. (2005). A simplified technique for scoring DMS-IV personality disorders with the Five-Factor Model. *Assessment*, 12, 404–415.
- Neisser, V. (1991). Two perceptually given aspects of the self and their development. *Developmental Review*, 11, 197–209.
- Paris, J. (2006). Neurobiological dimensional models of personality: A review of three models. In T. A. Widiger, E. Simonsen, P. A. Sirivatka, & D. A. Regier (Eds.), *Dimensional models of personality disorders: Refining the research agenda for DSM-V* (pp. 61–72). Washington, DC: American Psychiatric Association.
- Petroskey, L. J., Ben-Porath, Y. S., & Stafford, K. P. (2003). Correlates of the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) Personality Psychopathology Five (PSY-5) Scales in a forensic assessment setting. *Assessment*, 10, 393–399.
- Quilty, L. C., & Bagby, R. M. (2007). Psychometric and structural analysis of the MMPI-2 personality psychopathology Five (PSY-5) facet subscales. *Assessment*, 14, 375–384.
- Roberts, B. W., & DeVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin*, 126, 25–30.
- Rothbart, M. K., & Derryberry, D. (2002). Temperament in children. In C. von Hofsten, & L. Backman (Eds.), *Psychology at the turn of the millennium: Vol. 2. Social, developmental, and clinical perspectives* (pp. 17–35). New York: Taylor & Francis.
- Saulsman, L. M., & Page, A. C. (2004). The Five-Factor Model and personality disorder empirical literature: A meta-analytic review. *Clinical Psychology Review*, 23, 1055–1085.
- Selman, R. L. (1980). *The growth of interpersonal understanding: Development and clinical analyses*. New York: Academic.
- Selman, R. L., & Demorest, A. P. (1986). The growth of interpersonal understanding and feeling in perspective: A developmental view on how children deal with interpersonal disequilibrium. In D. J. Bearison, & H. Zimiles (Eds.), *Thought and emotion: Developmental perspectives* (pp. 93–128). Hillsdale: Erlbaum.
- Sharpe, J. P., & Desai, S. (2001). The revised Neo Personality Inventory and the MMPI-2 Psychopathology Five in the prediction of aggression. *Personality & Individual Differences*, 31, 505–518.
- Somwaru, D. P., & Ben-Porath, Y. S. (1995, March). *Development and reliability of MMPI-2 based personality disorder scales*. Paper presented at the 30th Annual workshop and Symposium on

- Recent Developments in Use of the MMPI-2 and MMPI-A. St. Petersburg Beach, FL.
- Sperry, L. (2006). *Psychological treatment of chronic illness: The biopsychosocial therapy approach*. Washington, DC: American Psychological Association.
- Sroufe, L. A. (1990). An organizational perspective on the self. In D. Cicchetti, & M. Beeghly (Eds.), *The self in transition: Infancy to childhood* (pp. 281–207). Chicago: University of Chicago Press.
- Sroufe, L. A. (1996). *Emotional development: The organization of emotional life in the early years*. New York: Cambridge University Press.
- Tellegen, A., Ben-Porath, Y. S., McNulty, J. L., Arbisi, P. A., Graham, J. R., & Kaemmer, B. (2003). *The MMPI-2 restructured clinical scales: Development, validation, and interpretation*. Minneapolis: University of Minnesota Press.
- Trull, T. J., Ueda, J. D., Costa Jr., P. T., & McCrae, R. R. (1995). Comparison of the MMPI-2 Personality Psychopathology Five (PSY-5), the NEO-PI, and the NEO-PI-R. *Psychological Assessment*, 7, 508–516.
- Trull, T. J., & Widiger, T. A. (1997). *Structured interview for the Five-Factor Model of personality: Professional manual*. Odessa: Psychological Assessment Resources.
- Widiger, T. A. (2007). Alternatives to DSM-V: Axis II. In W. O'Donohue, K. A. Fowler, & S. O. Lilienfeld (Eds.), *Personality disorders: Towards the DSM-V* (pp. 21–40). Los Angeles: Sage.
- Widiger, T. A., Costa Jr., P. T., & McCrae, R. R. (2002). A proposal for Axis II: Diagnosing personality disorders using the Five-Factor Model. In P. T. Costa Jr., & T. A. Widiger (Eds.), *Personality disorders and the Five-Factor Model of personality* (2nd ed., pp. 431–456). Washington, DC: American Psychological Association.
- Widiger, T. A., & Simonsen, E. (2005). Alternative dimensional models of personality disorder: Finding a common ground. *Journal of Personality Disorders*, 19, 110–130.
- Widiger, T. A., Simonsen, E., Kruger, R. F., Livesley, W. J., & Verheul, R. (2006). Personality disorder research agenda for DSM-V. In T. A. Widiger, E. Simonsen, P. J. Sirovatka, & D. A. Regier (Eds.), *Dimensional models of personality disorders: Refining the research agenda for DSM-V* (pp. 233–256). Washington, DC: American Psychiatric Association.
- Yeates, K. O., Schultz, L. H., & Selman, R. L. (1990). Bridging the gaps in child-clinical assessment: Toward the application of social-cognitive development. *Clinical Psychology Review*, 10, 567–588.
- Young, G. (1997). *Adult development, therapy, and culture: A postmodern synthesis*. New York: Plenum.
- Young, G. (2008). Chronic pain, medically unexplained symptoms, personality disturbance: Systems, change processes, development. *Psychological Injury and Law*, 4 (in press).